

LISTING OF CLAIMS: The following claim listing will replace all prior versions of the claims.

1. (Currently Amended) A method of delivering an oligonucleotide ~~or a plasmid expressing an oligonucleotide~~ into a target cell comprising: a) introducing the oligonucleotide or ~~the a plasmid~~ expressing the oligonucleotide into a donor cell in vitro; and b) contacting the target cell with the donor cell under conditions permitting the donor cell to form a gap junction channel composed of connexin 43 with the target cell, whereby the oligonucleotide, ~~the plasmid expressing the oligonucleotide or a peptide product thereof~~ is delivered into the target cell from the donor cell by traversing the gap junction and wherein the oligonucleotide is 12-24 nucleotides in length.
2. (Currently Amended) The method of claim 1, wherein the oligonucleotide is RNA that can traverse the gap junction ~~or be transcribed into a peptide that can traverse the gap junction.~~
3. (Original) The method of claim 1, wherein the oligonucleotide is DNA.
4. (Currently Amended) The method of claim 1, wherein the oligonucleotide is an antisense oligonucleotide ~~or a cDNA that produces an antisense oligonucleotide that can traverse the gap junction.~~
5. (Currently Amended) The method of claim 1, wherein the oligonucleotide is a siRNA ~~oligonucleotide or a cDNA that produces a siRNA oligonucleotide that can traverse the gap junction.~~
6. (Cancelled)
7. (Original) The method of claim 1, wherein the plasmid encodes siRNA.
8. (Currently Amended) The method of claim 1, wherein the oligonucleotide ~~comprises 12-24 nucleotides, preferably~~ is 18-22 nucleotides in length.
9. (Original) The method of claim 1, wherein the donor cell is a human mesenchymal stem cell.
10. (Currently Amended) The method of claim 1, wherein the donor cell is a cell engineered to contain ~~one or more connexin protein(s)~~ connexin 43.

11. (Original) The method of claim 1, wherein the target cell is present in a syncytial tissue.

12. (Original) The method of claim 11, wherein the cell in the syncytial tissue is selected from the group consisting of a cardiac myocyte, a smooth muscle cell, an epithelial cell, a connective tissue cell, and a syncytial cancer cell.

13. (Currently Amended) The method of claim 1, wherein the target ~~cell~~ cell is a white blood cell.

14-19. (Cancelled)

20. (Currently Amended) A method of delivering an oligonucleotide into a target cell comprising: a) introducing ~~an~~ the oligonucleotide into a human mesenchymal stem cell or other donor cell in vitro; and b) contacting the target cell with the human mesenchymal stem cell or other donor cell under conditions permitting the donor cell to form a gap junction channel composed of connexin 43 with the target cell, whereby the oligonucleotide ~~or a peptide product expressed therefrom~~ is delivered into the target cell from the donor cell by traversing the gap junction and wherein the oligonucleotide is 12-24 nucleotides in length.

21. (Currently Amended) A method of delivering an oligonucleotide into a syncytial target cell comprising: a) introducing ~~an~~ the oligonucleotide into a donor cell in vitro; and b) contacting the syncytial target cell with the donor cell under conditions permitting the donor cell to form a gap junction channel with the syncytial target cell, whereby the oligonucleotide is delivered into the syncytial target cell from the donor cell by traversing the gap junction wherein the gap junction is composed of connexin 43 and wherein the oligonucleotide is 12-24 nucleotides in length.

22. (Currently Amended) A method of delivering RNA into a target cell comprising: a) introducing RNA or a plasmid transcribable into RNA into a donor cell in vitro; and b) contacting the target cell with the donor cell under conditions permitting the donor cell to form a gap junction channel composed of connexin 43 with the target cell, whereby the RNA ~~or the plasmid~~ is delivered into the target cell from the donor cell by traversing the gap junction and wherein the RNA is 12-24 nucleotides in length.

23. (Currently Amended) A method of delivering DNA into a target cell comprising: a) introducing a DNA or a plasmid coding for the DNA into a donor cell in vitro; and b)

contacting the target cell with the donor cell under conditions permitting the donor cell to form a gap junction channel composed of connexin 43 with the target cell, whereby the DNA ~~or the plasmid~~ is delivered into the target cell from the donor cell by traversing the gap junction and wherein the DNA is 12-24 nucleotides in length.

24. (Cancelled)